

Application Serial N . 09/478,849
Amendm nt Dated 15 May 2004
Response to Office Action of 18 November 2003

Docket No. CIC-037-US

Remarks

Applicant respectfully requests reconsideration of the instant application in view of the above amendments and the following remarks.

Surrender of Original Patent

Applicant will either surrender the original patent or submit a declaration at to loss or inaccessibility thereof, and is presently searching for the original patent.

Reissue Declaration

Enclosed herewith is a replacement reissue Declaration, which includes a statement that "all errors being corrected in this reissue application up to the time of the filing of this reissue declaration arose without deceptive intention on the part of the applicant."

Specification

~~Please replace the paragraph beginning on column/page 8, line 41 with the following:~~

The specification has been amended on column/page 8, lines 53-54 to replace "aperture of the eye lens" with --exit pupil--. Support for this amendment is found in the general references to "exit pupil" elsewhere in the specification, e.g. on page/column 1, lines 59-65; page/column 7, lines 22-27, 54-55, and 61-65; and page/column 9, lines 1-5.

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Claims

Summary of Claim Status

Claims 1-43 and 46-75 are pending in the application.

Claims 1-43 and 46-75 stand rejected as being based upon a defective reissue Declaration under 35 U.S.C. §251. Applicant respectfully submits that this defect has been remedied with the submission herewith of a replacement reissue Declaration.

The rejection of claims 33, (35, 37, 39, 41)/33, 57-60 and 63-64 under 35 U.S.C. §251 appear to have been withdrawn. The statement on page 3, paragraph 6 that "The rejections ... are not withdrawn because applicant's arguments provided in the amendment are persuasive" [emphasis added] appears to be unclear as to the claim status. Applicant assumes that the Examiner had intended that this instead read as follows: "The rejections ... are now withdrawn because applicant's arguments provided in the amendment are persuasive"

Claims 32-43, 66-69 and 72-73 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wood (U.S. Patent No. 4,669,810) in view of Kato et al. (U.S. Patent No. 5,817,597) and Opitek et al. (U.S. Patent No. 3,915,548).

The rejections of claims 1-5, 7-12, 15-43, 46-48, 51-61 and 63-65 under 35 U.S.C. §103(a) over Macken (U.S. Patent No. 4,480,169) or Macken in view of Kato et al. (U.S. Patent No. 5,817,597) have been withdrawn.

Claims 1-31, 46-65, 70-71, 74 and 75 would be allowable upon correction of the defective reissue Declaration and if claims 70, 71 and 74 are rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Summary of Claim Amendments

Claims 32, 33 and 66 have each been amended as follows to add the limitation that "said light redistributing means comprises a light redistributing screen with a scanning modulated beam of light, wherein said light redistributing screen redistributes light from said beam of light of said intermediate image", which limitation corresponds to that of allowed claim 57, and which is supported by the specification from page/column 7, line 56 through page/column 8, line 33, and by Fig. 4:

32. (thrice amended): An optical system, comprising:

- a. a modulated scanning beam of light for forming an intermediate image;
- b. a light redistributing means positioned proximate to said intermediate image for expanding a cone of light incident on said light redistributing means into a larger cone of exodus, wherein said light redistributing means comprises a light redistributing screen with a scanning modulated beam of light, wherein said light redistributing screen redistributes light from said beam of light of said intermediate image; and
- c. a re-imaging means for re-imaging said intermediate image so as to form a virtual image, wherein said re-imaging means forms an exit pupil.

33. (twice amended): An optical system, comprising:

- a. a modulated scanning beam of light for forming an intermediate image;
- b. a means for re-imaging said intermediate image so as to form a virtual image, wherein said means for re-imaging said intermediate image forms an exit pupil; and
- c. a light redistributing means positioned proximate to said intermediate image for expanding said exit pupil, wherein said light redistributing means comprises a light redistributing screen with a scanning modulated beam of light, wherein said light redistributing screen redistributes light from said beam of light of said intermediate image.

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66. (once amended) An optical system, comprising::

- a. a scanning modulated beam of light;
- b. a projection surface comprising a light redistributing means, wherein an intensity of said beam of light is modulated to form an intermediate image on said projection surface, wherein said light redistributing means comprises a light redistributing screen with a scanning modulated beam of light, wherein said light redistributing screen redistributes light from said beam of light of said intermediate image; and
- c. a re-imaging means, wherein said re-imaging means forms a virtual image of said intermediate image from light from said projection surface through an exit pupil viewable by an eye.

Claims 70, 71 and 74 have been rewritten in independent form, including all of the limitations of the base claim and any intervening claims, as follows:

70. (once amended) An optical system [as recited in claim 66] , [wherein] comprising:

- a. a scanning modulated beam of light;
- b. a projection surface comprising a light redistributing means, wherein an intensity of said beam of light is modulated to form an intermediate image on said projection surface, and said projection surface comprises a surface that absorbs light from said beam of light and emits light as an intermediate image; and
- c. a re-imaging means, wherein said re-imaging means forms a virtual image of said intermediate image from light from said projection surface through an exit pupil viewable by an eye.

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71. (once amended) An optical system [as recited in claim 66], comprising:

- a. a scanning modulated beam of light, wherein said modulated beam of light comprises polychromatic light and said modulated beam of light is pre-aberrated so as to accommodate chromatic aberration by said re-imaging means;
- b. a projection surface comprising a light redistributing means, wherein an intensity of said beam of light is modulated to form an intermediate image on said projection surface; and
- c. a re-imaging means, wherein said re-imaging means forms a virtual image of said intermediate image from light from said projection surface through an exit pupil viewable by an eye.

74. (once amended) An optical system [as recited in claim 66], [further] comprising:

- a. a scanning modulated beam of light;
- b. a projection surface comprising a light redistributing means, wherein an intensity of said beam of light is modulated to form an intermediate image on said projection surface;
- c. a re-imaging means, wherein said re-imaging means forms a virtual image of said intermediate image from light from said projection surface through an exit pupil viewable by an eye; and
- d. a beam splitter, wherein light from said scanning modulated image source reflects off of said beam splitter, then reflects off of said projection surface, then passes through said beam splitter, and then passes through said re-imaging means.

Support for Newly Added Claims

Claims 76/32 and 77/33 respectively reinstate claims 44/32 and 45/33, which had been previously cancelled in error. If amended claims 32 and 33 are allowed responsive to the argument herein, then claims 76 and 77 will be allowable because the addition of limitations to a novel and non-obvious claim does not negate novelty and non-obviousness when at least one element or limitation in the base claim is not present in the prior art..

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Claims 78-87 are supported by the specification from page/column 7, line 56 through page/column 8, line 33, and by Fig. 4.

Claim Rejections Under 35 U.S.C. §103(a) over Wood in view of Kato et al. and Opitek et al.

Claims 32-43, 66-69 and 72-73 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wood (U.S. Patent No. 4,669,810) in view of Kato et al. (U.S. Patent No. 5,817,597) and Opitek et al. (U.S. Patent No. 3,915,548).

Claims 32, 33 and 66 each been amended to add the limitation that "said light redistributing means comprises a light redistributing screen with a scanning modulated beam of light, wherein said light redistributing screen redistributes light from said beam of light of said intermediate image", which limitation corresponds to that of allowed claim 57, and which is supported by the specification from page/column 7, line 56 through page/column 8, line 33, and by Fig. 4.

Wood discloses a reflecting element 28 that desirably comprises a holographic element, and which, as best understood, acts as a lens-like element that provides for a one-to-one relationship between light rays entering and exiting the reflecting element 28. As distinguished from Wood, the light redistributing screen in accordance with claims 32, 33 and 66 provides for redistributing light impinging thereupon and provides for a one-to-many relationship between light rays entering and exiting the light redistributing screen. Notwithstanding this one-to-many relationship of the light redistributing screen, the instant invention provides for re-imaging the light from the intermediate image that is redistributed by the light redistributing screen if the intermediate image is located at least proximate to the light redistributing screen. Applicant respectfully submits that one-of-ordinary skill in the art would be dissuaded from replacing the reflecting element 28 of Wood with a light redistributing screen because of this limitation. Furthermore, as best understood, Kato et al. discloses the curved surface 10' of the embodiment of Fig. 9 to incorporate a reflection-type hologram 4, rather than a light redistributing screen. Yet further, as best understood, Opitek et al. discloses a holographic lens/combiner 20 rather than a light redistributing screen. Accordingly, as best understood, neither Wood, Kato et al. nor Opitek et al., either individually or in combination, provide any suggestion to replace the holographic element with a light redistributing screen.

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Because neither Wood, Kato et al. nor Opittek et al. disclose or suggest all of the limitations of either claims 32, 33 or 66, then claims 32, 33 and 66 are non-obvious with respect to Wood, Kato et al. and Opittek et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of amended claims 32, 33 and 66.

Claims 34/32, 35/33, 36/32, 37/33, 38/32, 39/33, 40/32, 41/33, 42/32, 43/33, 76/32, 77/33, 67/66, 68/66, 69/66, 72/66 and 73/72/55 each depend upon either claims 32, 33 or 66. Accordingly, Applicant respectfully submits that if the above argument regarding the non-obviousness of claims 32, 33 and 66 is accepted, then claims 34-43, 67-69, 72-73 and 76-77 are also non-obvious with respect to Wood in view of Kato et al., and Opittek et al., because the addition of further limitations to an already novel and non-obvious claim does not negate non-obviousness when at least one element or limitation in the base claim is not present in the prior art. Applicant requests reconsideration and allowance of claims 34-43, 67-69, 72-73 and 76-77 in view of the above argument and the amendments submitted herewith.

Extension of Time and Payment of Fees Under 37 C.F.R. § 1.17(a)(3)

Applicant hereby petitions for a Three-Month Extension of Time, pursuant to 37 C.F.R. § 1.136, extending the deadline for response up to and including May 18, 2004. A Credit Card Payment Form in the amount of \$978 is enclosed which includes payment of \$475 for the associated Three-Month Extension of Time fee pursuant to 37 C.F.R. § 1.17(a)(3).

Payment of Fees under 37 C.F.R. §§ 1.16(b), (c)

This amendment adds twelve (12) claims, including five (5) independent claims, resulting in a total of eighty-seven (87) claims and twelve (12) independent claims. As a result of this amendment, there are now five (5) excess independent claims, which at a cost of \$43 each in accordance with 37 C.F.R. § 1.16(b) results in a subtotal of \$215 of excess independent claims fees. Also as a result of this amendment, there are now twelve (12) excess claims, which at a cost of \$9 each in accordance with 37 C.F.R. § 1.16(c) results in a subtotal of \$108 of excess claims fees. The combined total excess claims fees as a result of this amendment are \$323, payment of which is included in the Credit Card Payment Form in the amount of \$978 enclosed herewith.

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Payment of Fees under 37 C.F.R §1.17(p)

Payment under 37 C.F.R. § 1.17(p) in the amount of \$180 for the Information Disclosure Statement submitted herewith is included in the Credit Card Payment Form in the amount of \$978 enclosed herewith.

Authorization to Charge Fee Deficiencies

The Commissioner is authorized to charge any deficiencies -- that cannot be corrected by amendment of the Credit Card Payment Form -- to Deposit Account 04-1131.

Summary and Conclusions

The defective reissue Declaration has been replaced. The specification has been amended to improve clarity. Claims 32, 33, 66 have been amended to add a limitation thereto. Claims 70, 71 and 74 have been rewritten in independent form, including all of the limitations of the base claim and any intervening claims. Claims 76 and 77 have been added to reinstate claims 44 and 45 that had been previously been cancelled in error. Claims 78-87 have been added to extend the scope of claim coverage for matter disclosed in the specification. Applicant respectfully submits that no new matter has been added by this amendment.

Applicant respectfully requests reconsideration of the instant application as amended herein in view of the arguments hereinabove. Applicant respectfully submits that the instant application is now in the proper form for Notice of Allowance.

Respectfully Submitted,



Kurt L. VanVoorhies

Registration No. 38,643

Phone: 248-364-2100

Facsimile: 248-364-2200

Dinnin & Dunn, P.C.
2701 Cambridge Court, Suite 500
Auburn Hills, MI 48326
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